/102 cont./

342 round, beehive-like. The larger one was 19 paces in diameter, covered high up on the outside with acuri straw, whereas the framework in the interior exhibited a circle of supporting posts one and a third meters high, upon which the basket of this structure, which actually consisted merely of a roof, rose with many horizontal bamboo rings. At the top was an air vent; a number of the /103/ framework poles crossing one another here extended to the outside. The entrance, a hole one and a half meters high, was surrounded by pepper plants. In any case, the interior space was far larger and finer than in the new houses.

433 241 The people led an idyllic existence; they carried on agri-

142 291 302 622

Captain Reginaldo and wife.

433 241 culture and stock-raising, went hunting, planted mandioca /manioc/, beans, maize, rice, and some tobacco and sugar cane. 197 They were civilized, despite the pierced ear lobes and nasal septa. 304 Their average height was 1.65 meters. they were striking because 142 of their broad and powerful chests. Their skin was yellowish, 141 clay-colored, and rather light, the hair of most of them was black and slightly curly or wavy. In general they had beautiful, open 151 eyes. Reginaldo's excellent vision was demonstrated on one occasion in a way that amazed us all. We noticed far in the distance a /illustration appears here/ figure in the grass; with an excellent field-glass I took it to be Tupy riding up: the entire company, among them Daniel, who was seldom mistaken, agreed with me;

2. Steinen--135 E,D-5 (1884, 1887-1888) 1894 SP7 Bacairi, 097
Trumai SP22

B
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/159 cont./

and, in order not to do violence to the perfectly justified tribal names, as actually happened in the case of the Nahuquá, we may call them, where we need a comprehensive term, the potter tribes, according to their most important ethnological characteristic. Beside them stand the Yaulapiti as a closely related Nu-Aruak tribe, but one already clearly different in dialect and revealing other influences.

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Thus the arithmetical problem has been simplified to the extent that we have before us Karaiben in the Bakaírí and Nahuquá, Nu-Aruak in the potter tribes and the Yaulapiti, Tupí in the Auetó and the Kamayurá, and, as an indivisible remainder, the Trumaí.

II. Anthropological.

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In order to have a record of the physical appearance of the Kulisehu Indians, insofar as was possible during our brief acquaintance with the individual tribes, a series of measurements were taken, which did not turn out to be very numerous and are not evenly distributed according to the different tribes or the two sexes, yet nevertheless offer interesting material. Possible sources of error on the part of the observer may be put down as constant, since the measurements were all taken by Ehrenreich. He also took a far greater number of photographs than could be reproduced here, some of them, however, became very spotty and difficult to reproduce.* He expects to make further use of the illustrative

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material and to deal with the collected material of the measurements in detail and according to its comparative value for the

* As is shown in detail in the list of illustrations, the following are reproduced here in photographs: both sexes of the Bakaírí, Mehinakú and Kamayurá, as well as only men of the Nahuquá and Auetó, while Yaulapiti and Trumaí are missing altogether.

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/159 cont./

other South American Indians. I shall limit myself here to a few preliminary studies and from the chief measurements give at least the bulk reduced to maximum, minimum, and arithmetical mean, in order to show merely in rough outlines the proportions of the Indian phytique.

Virchow's instrumental equipment was used for the measurements: measuring staff with folding foot-board, calipers and beam compasses, as well as a steel /160/ tape measure. The measurements were entered on a printed Virchow form (cf. Zeitschrift für Ethnologie XVII, p. 100). The following were measured: Bakaïrí men 10, women 6; Nahuqua men 15, women 12; Mehinakú men 6, women 5; Kustenaú women 1; Waurá men 1, women 1; Auetó men 14, women 2; Kamayurá men 14, women 4; Trumaí men 8; a total of 68 men and 31 women. I shall always list the tribes in such a way that the arithmetical mean of the figures for the men increase from top to bottom.

B
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Body height.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	8	163.0	155.0	159.1	-	-	-	-
Auetó	14	171.6	155.5	159.9	16	156.5	139.5	148.0
Kustenaú	-	-	-	-	1	-	-	150.0
Bakaïrí	10	166.3	154.5	160.8	6	161.2	140.5	151.6
Nahuquá	14	166.7	155.5	162.3	12	161.0	145.0	152.2
Mehinakú	6	168.2	159.0	164.1	5	153.7	145.3	151.4
Kamayurá	14	172.0	159.0	164.1	4	155.7	152.0	153.8
Waurá	1	-	-	165.7	1	-	-	147.5

The arithmetical mean of the body heights of all these 67 men, irrespective of tribe, amounts of 161.9.

B
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Without doubt, however, the number is too low. If we exclude all younger persons up to the estimated age of 25 and include the Nahuquá estimated at "50" years who represents the minimum of 155.5, as well as the "60"-year-old Kamayurá with a minimum height of 159.0, we obtain the following rearrangement of tribes and alteration of figures. The maxima remain unaffected.

/160 cont./

	Men.	Min.	Mean			
Trumaí	4	155.0	155.8	as against		159.1
Bakaïrí	5	154.5	160.5	"	"	160.8
Auetŏ	9	155.5	160.7	"	"	159.9
Nahuquá	11	158.2	163.7	"	"	162.3
Kamayurá	6	159.7	165.5	"	"	164.1
Mehinakú	4	163.2	166.0	"	"	164.1

The arithmetical mean for these 39 men, who, according to the estimate, would be from 30-50 years of age, comes to 162.6. We see that now the Trumaí and Bakaïrí have a low mean, but the others a higher one, and, to be sure, the difference is greatest in the case of the Mehinakú.

If, with Topinard, we give 165 centimeters as the average height of the adult, the Kulisehu Indians on the average remain under the average size: below average height for all, with the exception of the Trumaí, who even go beyond the line set at 160 centimeters for small stature. The numbers agree with those which Topinard gives in his table, 162 for the Araukaner /Arawakans:/ and Botokuden /Botocudo/, 160 for the Peruvians. The tallest man on the Kulisehu was a Kamayurá at 172.0, the shortest was the Bakaïrí with the Jewish facial type (Pl. 13) at 154.5. I obtained somewhat larger figures for the Bakaïrí in 1884: /Pl. XIII appears here/ /161/ on the Batovy the average of seven measurements was 163.6; on the Rio Novo and Paranatinga the average of 14 was 164.1. I should therefore like them to precede the Auetŏ in stature, as in the first table.

The women were decidedly small in stature. The maximum 161.2 belonged to the tall Bakaïrí who appears in the group of women (Pl. 5), the "Egyptian" of the first village; the minimum of 139.5 to one of the only two Auetŏ women measured, while the other measured 156.5, but was particularly striking because of her small fingers and toes.

The arithmetical mean of 31 women measured, irrespective of age, comes to 151.7.

[Text Continues on P.139]

/161 cont./

128 141 It is not likewise not really possible to exclude among the women all individuals up to those 25 years old exclusively, for in that case, at least for the Bakaïrí, there would be left only the tall Egyptian, who, moreover, in my opinion, if, given "25-30" years, is estimated too old. If we disregard all women up to these 20 years old inclusively and likewise a "60"-year-old Mehinakú of 151.0, we obtain:

	Women	Min.	Mean			
Waurá	1	–	147.5	as against		147.5
Auetö	2	139.5	148.0	"	"	148.0
Kustenaú	1	–	150.0	"	"	150.0
Mehinakú	3	145.3	150.8	"	"	151.4
Nahuquá	10	145.0	152.0	"	"	152.2
Bakaïrí	3	145.5	153.9	"	"	151.6
Kamayurá	2	154.3	155.0	"	"	153.8

The arithmetical mean of these 22 women amounts to 152.1, the mean of the Mehinakú and Nahuquá, however, after the exclusion of the younger women, has become lower. The average difference between the two sexes would be 10.5 centimeters, in other words, the women on the average were 6.5% shorter than the men.

The most powerfully built Indians were to be found among the Mehinakú, cf. Plate 14 /see p. 163/, very sturdy chaps, and the Nahuquá, cf. the illustration on page 71. The most striking phenomenon about their physique is the broad and deep chest and the tremendous shoulder breadth of the men. The breadth of the pelvis seems smaller than the breadth of the thorax. Older men and children were commonly characterized by a little belly. The women did not have very broad hips, the calves were weak, and their feet were set inward somewhat, as though they were always walking on narrow paths, so that the walk, especially of the woman tripping along with a load, was by no means beautiful. Actually, we saw only one Indian woman whose figure, [142] even by our standards, was graceful and well proportioned; it is the slim Bakaïrí girl in the middle of the group on Plate 5, to whom the photograph, however, does not do justice.

/161 cont./

Breadth of outspread arms. Body height = 100.

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The variations in details are great in each tribe, but move within similar boundaries, so that the difference in the arithmetical /162/ means of the series is less pronounced. The breadth of the outspread arms was less than the body height in one instance each among the Auetö (- 0.5), the Kamayurá (- 1.3), and the Trumaí (3.8).

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	7	106.2	97.5	102.7	–	–	–	–
Nahuquá	14	105.7	100.2	103.5	12	108.8	100.3	103.8
Kamayurá	14	107.6	99.2	104.5	4	103.6	102.1	103.5
Bakaïrí	10	108.2	102.1	104.9	6	105.8	101.8	103.3
Kumanaá	–	–	–	–	1	–	–	105.0
Mehinaká	6	107.3	100.5	105.0	5	108.7	102.5	105.5
Auetö	14	108.4	99.7	105.2	2	106.0	101.8	103.9
Waurá	1	–	–	108.3	1	–	–	106.6

Here the Nahuquá, Kamayurá, Bakaïrí, Mehinaká, and Auetö appear in the same order as in the measurements of chest size.

Shoulder breadth. A. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Nahuquá	5	25.0	22.4	24.1	1	–	–	22.4
Kamayurá	4	24.9	23.6	24.4	2	22.7	21.5	22.1
Waurá	1	–	–	24.4	1	–	–	23.8
Auetö	4	25.7	23.6	24.5	2	23.7	23.0	23.4
Bakaïrí	10	26.2	23.9	24.7	5	24.1	23.4	23.7
Trumaí	1	–	–	24.9	–	–	–	–
Mehinaká	6	26.8	24.6	25.2	–	–	–	–

2: Steinen--141 E.D-5 (1884, 1887-1888) 1894 SPT Bacairi SP7
Trumai SP23

/162 cont./

B. Absolute.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Auetö	4	40.0	38.0	39.0	2	36.0	33.0	34.5
Nahuquá	5	41.0	36.5	39.2	1	–	–	33.0
Waurá	1	–	–	39.5	1	–	–	35.0
Bakaïrí	10	42.0	38.0	39.7	5	38.0	33.0	35.0
Trumaí	1	–	–	40.0	–	–	–	–
Kamayurá	4	41.5	39.0	40.1	2	34.5	33.5	34.0
Mehinakú	6	44.5	39.5	41.4	–	–	–	–

Chest circumference. A. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Nahuquá	14	57.6	50.8	55.1	12	59.1	48.3	53.2
Kamayurá	4	59.0	53.0	55.9	2	56.6	50.3	53.5
Bakaïrí	10	58.8	54.4	56.5	6	59.1	50.0	54.0
Trumaí	1	–	–	56.6	–	–	–	–
Kuikuruá	–	–	–	–	1	–	–	54.7
Mehinakú	6	60.3	56.4	57.9	5	59.6	50.7	55.5
Auetö	14	60.6	55.8	58.2	2	56.3	55.6	56.0

These figures are very high. According to Topinard, the Scots have 56.7, the North American Indians 56.5, the Germans 53.8. The extraordinarily strong development of the chest and the shoulder breadth is also the factor that stands out most prominently in the appearance of our Indians. Consider the Mehinakú on the left on Plate 14 /see p. 163/. Even the Nahuquá who /163/ show up the most unfavorably in the measurements are characterized by a strong thorax; see the illustration on page 71. The Auetö with their short stature have relatively the largest chest circumference.

/163 cont./

B
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In view of the importance of this measurement, I am also giving the circumference

B. Absolute.

	Men	Max.	Min.	Mean	Women	Max.	Min	Mean
Nahuquá	14	96.0	83.5	89.5	12	89.5	70.0	80.0
Bakaïrí	10	94.9	84.0	90.9	6	86.0	75.5	81.7
Trumai	1	–	–	91.0	–	–	–	–
Kustenaú	–	–	–	–	1	–	–	82.0
Kamayurá	4	97.5	87.5	91.9	2	86.0	78.3	82.6
Auetó	14	99.0	87.0	93.1	2	87.0	78.5	82.7
Waurá	1	–	–	94.0	1	–	–	79.0
Mehinakú	6	101.5	91.5	95.1	5	90.0	78.0	84.0

Head height. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Kamayurá	4	15.6	12.4	13.8	2	14.2	13.7	14.0
Mehinakú	6	15.7	12.7	13.9	–	–	–	–
Nahuquá	4	15.8	12.7	13.9	1	–	–	14.5
Bakaïrí	10	15.3	13.1	14.2	6	14.4	13.0	13.6
Waurá	1	–	–	14.3	1	–	–	12.6
Auetó	4	14.8	14.1	14.3	2	15.8	13.1	14.5
Trumaí	1	–	–	14.5	–	–	–	–

The measurement thus fluctuates between one-seventh and one-eighth of the total height. The men have relatively lower heads than the women. The maximum, 15.8%, belongs to an Auetó woman, the minimum, 12.4%, to a Kamayurá man.

Head circumference. Body size = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	1	–	–	32.4	–	–	–	–
Kamayurá	4	33.0	33.5	33.7	2	34.9	34.0	34.5
Bakaïrí	10	35.3	32.5	33.7	6	36.3	33.7	35.5
Mehinakú	6	34.9	32.6	33.8	–	–	–	–
Nahuquá	4	34.9	32.6	34.0	1	–	–	35.4
Waurá	1	–	–	34.3	1	–	–	32.2
Auetó	4	35.4	33.8	34.5	2	36.1	34.2	35.2

/163 cont./

8 T 141

The maximum of the totality was that of a Bakaïrí woman who was particularly small and whose body height was only 140.5 centimeters. The Waurá woman with 32.2 was 147.5 centimeters tall. She is followed in the minimum measure by the Trumaí man who was 160.7 in body height and whose head circumference was 52.0, so that the striking fact, even at a glance, of how small the heads of the Trumaí are relatively is clearly expressed in the 32.4 figure. The Auetó, on the other hand, also distinguished by their small stature, at least had heads large in circumference, just as they had chests large in circumference.

/164/

Length-breadth index of the head.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Waurá	1	–	–	77.4	1	–	–	84.9
Mehinakú	6	79.2	75.2	77.7	5	80.2	74.8	77.5
Kuikuró	–	–	–	–	1	–	–	78.5
Kamayurá	14	81.6	75.6	78.8	4	81.7	74.4	77.9
Bakaïrí	10	82.6	73.8	78.9	6	84.3	77.9	80.1
Auetó	14	83.2	73.0	79.4	2	80.3	77.5	78.9
Nahuquá	15	84.8	75.4	80.5	12	84.1	72.7	80.8
Trumaí	8	83.8	78.6	81.1	–	–	–	–

My measurements of the Bakaïrí in 1884 deviate not inconsiderably from these of the Kulisehu Bakaïrí. /Fig. 10 appears here./

	Max.	Min.	Mean
Six men on the Batovy	78.9	72.5	75.9
Four " " " Paranatinga	80.4	75.1	77.3
Six " " " Rio Novo	83.2	78.7	79.9

We see that differences in the mean are great between the individual tribes as well as between individuals of the same tribe, that in general the skulls are mesocephalic, and that the Trumaí are the ones who most definitely cross the boundary into brachycephaly. If one arranges according to means the women of the tribes for which there is a series, the sequence is the same as in the case of the men: Mehinakú, Kamayurá, Bakaïrí, Auetó, Nahuquá. Only in the case of the Bakaïrí is the index of the women consistently higher for maximum, minimum, and mean than that of the men.

2. Steinen--1442D-5 (1884, 1887-1888) 1894 SP7 Bacairi SP7
Aueto SP6
Trumai SP23

/164 cont./

A
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Fig. 10. Auetó.

/165/

B
T
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Relationship of head length to ear height. Greatest length of the head = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Bakairí	10	69.7	59.0	64.7	6	71.2	59.1	65.8
Kamayurá	14	69.6	60.6	64.7	4	68.7	58.9	64.4
Auetó	14	70.3	60.9	65.4	2	63.4	62.0	62.7
Kustenaí	–	–	–	–	1	–	–	67.3
Mehinakú	6	71.0	63.9	65.8	5	68.7	59.4	65.3
Waurá	1	–	–	65.6	1	–	–	67.6
Nahuquá	15	71.5	62.8	67.4	12	76.0	65.9	69.9
Trumaí	8	72.6	68.0	70.5	–	–	–	–

The Nahuquá and the Trumaí, who have the broadest skulls, also have the highest.

2: Steinen--145 E,D-5 (1884, 1887-1888) 1894 SP7 Bacairi SP7
Trumai SP23

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B T 141

Angle of the jaw. A. Edge of hair -- chin = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Bakaïrí	9	58.3	49.1	47.8	6	61.6	50.6	56.1
Waurá	1	–	–	50.0	1	–	–	56.0
Trumaí	1	–	–	50.8	–	–	–	–
Kamayurá	4	62.4	42.7	54.5	2	56.8	54.5	55.7
Mehinakú	6	59.2	52.4	56.4	–	–	–	–
Nahuquá	5	64.5	53.3	58.0	1	–	–	59.8
Auetó	4	62.9	54.5	59.0	2	60.6	53.1	56.9

B. Nasal root -- chin = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	1	–	–	79.1	–	–	–	–
Kamayurá	4	93.2	64.9	81.3	2	98.9	89.7	94.3
Bakaïrí	8	88.7	80.5	84.5	6	98.9	81.3	88.1
Auetó	4	94.7	85.0	88.4	2	97.0	89.9	93.5
Mehinakú	6	96.4	85.5	89.8	–	–	–	–
Nahuquá	5	102.5	86.0	93.7	1	–	–	100.0
Waurá	1	–	–	100.0	1	–	–	86.6

The faces of the Nahuquá looked very square, especially on account of the width of the angle of the jaw.

Zygomatic arch. A. Edge of hair -- chin = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Waurá	1	–	–	67.5	1	–	–	87.3
Nahuquá	5	74.6	68.6	72.0	1	–	–	70.0
Trumaí	1	–	–	72.2	–	–	–	–
Bakaïrí	9	76.6	67.7	72.9	6	83.0	71.9	76.9
Auetó	4	80.5	71.1	74.9	2	77.5	74.7	76.1
Kamayurá	4	81.2	74.5	77.8	2	76.9	74.3	75.6
Mehinakú	6	84.9	74.3	79.8	–	–	–	–

/165 cont./

B. Nasal root -- chin = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Waurá	1	–	–	110.7	1	–	–	130.1
Nahuquá	9	122.7	103.4	113.2	12	130.0	116.3	125.0
Auetö	5	122.4	110.8	114.1	2	124.0	122.2	123.1
Bakaïrí	9	121.1	109.2	114.7	6	131.6	109.5	120.8
Kamayurá	14	126.4	105.2	115.0	4	134.7	108.3	123.1
Kustenaú	–	–	–	–	1	–	–	116.3
Trumaí	7	123.3	110.2	117.9	–	–	–	–
Mehinakú	6	134.3	121.4	127.4	5	141.8	127.0	131.3

/166/

Cheekbone protuberance. A. Edge of hair -- chin = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	1	–	–	42.2	–	–	–	–
Bakaïrí	8	48.1	39.8	43.6	6	47.2	40.6	44.3
Waurá	1	–	–	44.5	1	–	–	51.3
Nahuquá	5	50.5	41.5	44.6	1	–	–	40.2
Auetö	4	47.2	45.6	46.1	2	48.8	45.0	46.9
Mehinakú	6	49.4	42.4	46.4	–	–	–	–
Kamayurá	4	53.5	41.5	46.9	2	44.3	42.6	43.5

B. Nasal root -- chin = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	1	–	–	65.8	–	–	–	–
Auetö	4	72.6	65.2	69.1	2	79.8	72.0	75.9
Bakaïrí	7	75.8	62.7	69.4	6	71.8	65.4	69.3
Kamayurá	4	76.5	66.1	70.1	2	80.4	67.3	73.9
Nahuquá	5	80.3	64.5	71.8	1	–	–	67.3
Waurá	1	–	–	72.9	1	–	–	79.4
Mehinakú	6	77.3	69.0	73.5	–	–	–	–

2. Steinen--147 E D-5 (1884, 1887-1888) 1894 SP7 Bacairi SP7
Trumai SP23

/166 cont./

B T 141

Middle face. Nasal root -- chin = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Nahuquá	5	64.9	56.8	61.0	–	–	–	–
Trumaí	1	–	–	61.7	–	–	–	–
Kamayurá	4	64.0	59.5	61.9	2	66.3	62.6	64.5
Mehinaku	6	66.7	58.2	62.0	–	–	–	–
Bakairí	8	68.6	56.1	62.4	6	65.4	59.0	61.8
Auetö	4	66.4	59.2	62.9	2	62.6	60.0	61.3
Waurá	1	–	–	65.7	1	–	–	61.9

Nasal height. Nasal length = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Mehinaku	6	106.6	83.9	96.7	–	–	–	–
Waurá	1	–	–	98.1	1	–	–	93.2
Bakairí	9	112.7	89.6	98.3	6	104.9	91.8	96.1
Kamayurá	4	104.4	93.3	100.7	2	107.5	107.1	107.3
Nahuquá	5	121.4	89.4	102.0	1	–	–	97.8
Trumaí	1	–	–	104.3	–	–	–	–
Auetö	4	113.0	96.2	105.5	2	95.2	93.3	94.2

Nasal breadth. Nasal height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Waurá	1	–	–	73.1	1	–	–	82.9
Trumaí	1	–	–	75.5	–	–	–	–
Auetö	4	81.3	70.4	76.3	2	87.5	80.9	84.2
Kamayurá	4	83.3	74.5	79.9	2	86.0	68.9	77.5
Bakairí	10	100.0	66.7	81.0	6	95.0	66.0	79.3
Mehinaku	5	91.1	76.1	82.3	–	–	–	–
Nahuquá	5	102.2	74.5	86.9	1	–	–	76.7

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B
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Shoulder height. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Kustenaú	1	–	–	80.4	–	–	–	–
Nahuquá	5	83.8	80.1	82.4	12	85.7	82.4	83.5
Kamayurá	14	85.7	81.1	83.0	4	84.2	81.9	83.0
Trumaí	1	–	–	83.3	–	–	–	–
Mehinakú	6	84.8	82.1	83.3	5	84.4	82.6	83.6
Auetó	14	86.0	81.4	83.4	2	83.1	81.2	82.2
Waurá	1	–	–	83.5	1	–	–	84.3
Bakaïrí	10	85.6	82.6	84.0	6	84.5	82.3	83.4

An Auetó has the maximum of 86.0 among the men, a Nahuquá the minimum of 80.1; among the women, conversely, the maximum of 85.7 is found on a Nahuquá, and the minimum of 81.2 on an Auetó. The difference between the sexes is thus greatest among the Nahuquá and the Auetó, on the average, the man among the Nahuquá would be shorter at the shoulders by 1.1% of the total height than the woman, and among the Auetó taller than the woman by 1.2%.

Navel height. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Mehinakú	6	60.1	58.0	58.5	–	–	–	–
Nahuquá	5	59.4	57.8	58.6	1	–	–	57.3
Kamayurá	4	61.6	58.0	59.5	2	60.5	59.7	60.1
Waurá	1	–	–	59.7	1	–	–	60.7
Bakaïrí	10	61.0	57.8	59.7	6	60.8	59.5	60.4
Auetó	4	61.5	59.5	60.6	2	59.4	59.1	59.3
Trumaí	1	–	–	60.6	–	–	–	–

Men: maximum 61.6, Kamayurá; minimum 57.8, Bakaïrí and Nahuquá. Women: maximum 60.8, Bakaïrí; and minumum 59.1, Auetó.

/167 cont./

B
T
141

Symphysis height. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Mehinakú	4	50.7	48.1	49.2	—	—	—	—
Nahuquá	5	50.9	50.3	50.7	1	—	—	49.9
Trumaí	1	—	—	50.8	—	—	—	—
Auetó	3	51.7	50.1	50.9	2	51.8	49.1	50.5
Kamayurá	4	52.4	49.7	51.1	2	51.0	48.8	49.9
Bakaïrí	10	52.5	49.8	51.5	6	51.1	49.0	50.4
Waurá	1	—	—	52.4	1	—	—	51.2

Here the arithmetical mean is less among the women than among the men of the same tribe everywhere. Unfortunately, the Mehinakú women are missing, but the minimum of the total figure for both sexes is among the Mehinakú men at 48.1. In the series for the men, maximum 52.5 Bakaïrí, minimum Mehinakú; in the series for the women, maximum 51.8 among the Auetó, minimum 48.8 among the Kamayurá.

Iliac-crest height. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Mehinakú	6	60.4	55.9	58.8	—	—	—	—
Nahuquá	14	61.7	57.8	59.7	1	—	—	59.6
Bakaïrí	10	61.9	58.3	60.0	6	60.7	57.9	59.7

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Trumaí	1	—	—	60.2	—	—	—	—
Kamayurá	4	62.3	58.6	60.5	2	62.0	59.9	60.1
Waurá	1	—	—	61.6	1	—	—	60.0
Auetó	4	61.3	59.3	60.0	2	61.0	59.1	60.0

Men's maximum 62.3 and women's maximum 62.0 among the Kamayurá.

Arm length. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Nahuquá	4	46.2	43.5	45.1	10	49.2	45.2	46.7
Mehinakú	6	46.0	43.6	45.4	5	48.0	43.5	46.3
Auetó	14	47.3	43.9	45.8	2	46.7	44.7	45.7
Trumaí	1	—	—	46.2	—	—	—	—
Kustenaú	—	—	—	—	1	—	—	45.7

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B
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	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Kamayurá	14	49.3	44.6	46.2	4	47.1	44.3	45.5
Bakaïrí	10	47.6	45.2	46.2	6	46.6	45.2	45.6
Waurá	1	—	—	46.3	1	—	—	46.1

The long arms of the Nahuquá women are striking. Whereas the Nahuquá men have the shortest arms among the men, the arms of their women are not only longer than those of their male fellow-tribesmen, but the longest of the total figure in general; their maximum of 49.2 is exceeded only by one Kamayurá man with 49.3, and their minimum is higher than the mean of the Nahuquá men.

Hand length. A. Absolute.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	1	—	—	15.3	—	—	—	—
Nahuquá	5	18.0	15.2	16.5	1	—	—	15.5
Bakaïrí	10	18.5	15.3	16.6	6	18.0	14.8	15.8
Kamayurá	4	18.5	16.5	17.0	2	16.5	16.3	16.4
Auetö	4	18.5	15.8	17.2	2	16.3	13.7	15.0
Mehinakú	6	19.0	16.5	17.4	—	—	—	—
Waurá	1	—	—	17.5	1	—	—	15.6

B. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	1	—	—	9.5	—	—	—	—
Nahuquá	5	10.8	9.3	10.1	1	—	—	10.8
Bakaïrí	10	11.2	9.3	10.2	6	11.3	9.2	10.3
Kamayurá	4	11.1	10.0	10.3	2	10.8	10.4	10.6
Auetö	4	11.5	10.1	10.5	2	10.4	9.8	10.1
Mehinakú	6	11.4	10.0	10.6	—	—	—	—
Waurá	1	—	—	10.6	1	—	—	10.5

C. Arm length = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Trumaí	1	—	—	20.6	—	—	—	—
Bakaïrí	10	24.3	20.2	22.2	6	25.0	21.5	22.9
Kamayurá	4	24.5	20.5	22.5	2	24.2	23.0	23.6
Nahuquá	5	24.3	21.4	22.6	1	—	—	21.9
Auetö	4	24.9	22.3	23.4	2	22.3	22.0	22.2

/168 cont./

B
T
141

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Mehinakú	6	25.1	21.7	23.4	–	–	–	–
Waurá	1	–	–	22.8	1	–	–	22.9

/169/ The hand of the Indians is relatively short, and the woman's hand for the most part relatively shorter than the hand of the man.

Length-breadth index of the hand. Hand length = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Bakaïrí	10	56.2	43.4	44.1	6	50.9	41.7	47.3
Nahuquá	5	52.6	47.8	45.3	1	–	–	45.2
Kamayurá	4	48.5	43.4	45.8	2	42.9	41.2	42.5
Mehinakú	6	51.5	48.0	50.2	–	–	–	–
Auetö́	4	55.9	48.6	51.5	2	54.7	46.0	50.4
Waurá	1	–	–	54.3	1	–	–	51.3
Trumaí	1	–	–	55.6	–	–	–	–

The Mehinakú have relatively the longest hand and also a very broad one. The hand of the Bakaïrí and Nahuquá is short and narrow, that of the Auetö́ long and wide, that of the Kamayurá moderately long and narrow.

Trochanter height. Body height = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Kustenaú	1	–	–	50.3	–	–	–	–
Mehinakú	6	52.2	48.4	50.6	5	51.4	47.6	50.2
Auetö́	14	53.6	47.2	50.6	2	52.4	48.7	50.5
Trumaí	1	–	–	51.0	–	–	–	–
Waurá	1	–	–	51.6	1	–	–	51.5
Nahuquá	5	52.4	50.7	51.7	12	52.1	50.2	51.2
Bakaïrí	9	52.7	50.7	52.0	6	54.3	51.1	52.6
Kamayurá	14	53.6	51.1	52.1	4	52.0	50.6	51.3

The maximum 54.3 of the total number is among the Bakaïrí women and the minimum 47.2 among the Auetö́ men.

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Foot length. A. Absolute,

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Nahuquá	3	25.0	23.0	24.0	1	–	–	23.7
Trumaí	1	–	–	24.5	–	–	–	–
Auetö	4	25.8	23.5	24.6	2	22.0	20.5	21.3
Kamayurá	4	25.5	23.3	24.6	2	23.0	22.5	22.8
Bakaïrí	7	26.5	22.4	24.7	2	24.7	22.3	23.5
Mehinakú	5	27.5	24.5	25.7	–	–	–	–
Waurá	1	–	–	26.0	1	–	–	23.0

B. Body length = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Nahuquá	3	15.3	13.9	14.7	1	–	–	16.1
Kamayurá	4	16.0	14.1	15.0	2	14.8	14.8	14.8
Trumaí	1	–	–	15.2	–	–	–	–
Auetö	4	16.1	14.8	15.3	2	14.7	14.1	14.4
Bakaïrí	7	15.9	14.3	15.4	2	15.3	14.4	14.9
Mehinakú	5	16.3	14.8	15.6	–	–	–	–
Waurá	1	–	–	15.7	1	–	–	15.6

The foot length, like the hand length, is greatest among the Mehinakú and less among the Nahuquá, while the Bakaïrí have relatively longer feet than hands. It is a pity that we do not know whether the only Nahuquá woman measured, who is distinguished by such a remarkably long foot, was not /170/ perhaps a Mehinakú introduced into the tribe. Among all the Nahuquá women the toes were very short; in the case of the one measured, the fourth and fifth toes of the right foot were very short and crippled.

The second toe was frequently longer than the first, and in walking a space showed between the two. In the case of the standing foot, the space was sometimes rectangular in shape.

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Length-breadth index of the foot. Foot length = 100.

	Men	Max.	Min.	Mean	Women	Max.	Min.	Mean
Waurá	1	—	—	40.4	1	—	—	38.2
Bakaïrí	7	43.1	39.6	41.2	2	40.4	38.5	39.5
Nahuquá	3	44.3	40.8	41.7	1	—	—	37.9
Mehinakú	5	44.9	37.5	41.7	—	—	—	—
Auetö	4	42.6	40.7	42.0	2	43.9	38.6	41.3
Kamayurá	3	44.0	40.8	42.4	2	40.0	37.0	38.5
Trumaí	1	—	—	42.9	—	—	—	—

In order to give something of a survey of the way the individual tribes differ according to their measurements, I am arranging the most important measurements of the six tribes for which we have limited series in such a way that I give each one the number corresponding to its place in the series: 1 represents the lowest measure value, 2 a higher one, and so on up to 6, the highest number of the order of succession. The columns are arranged according to body height.

	Trumaí	Auetö	Bakaïrí	Nahu-quá	Kama-yurá	Mehi-nakú
Body height	1	2	3	4	5	6
Breadth of outspread arms	1	6	4	2	3	5
Shoulder breadth	5	3	4	1	2	6
Chest circumference	4	6	3	1	2	5
Head height	6	5	4	3	1	2
Head circumference	1	6	3	5	2	4
Length-breadth index	6	4	3	5	2	1
Length-height index	6	3	1	5	2	4
Zygomatic-arch breadth	2	4	3	1	5	6
Shoulder height	3	5	6	1	2	4
Navel height	6	5	4	2	3	1
Symphysis height	3	4	6	2	5	1
Iliac-crest height	4	6	3	2	5	1
Arm length	4	3	6	1	5	2
Trochanter height	3	2	5	4	6	1
Hand length	1	5	3	2	4	6
Foot length	3	4	5	1	2	6

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B T 141 The Trumaí have the lowest figure of all for stature, breadth of outspread arms, head circumference, hand length, the highest for head height, length-breadth and length-height index of the skull, navel height, the Mehinakú the lowest figure for the length-breadth index of the skull, for height of navel, symphysis, iliac crest, and trochanter, the highest, on the other hand, for stature, shoulder breadth (just as they are also rather outstanding for breadth of outspread arms and chest circumference), for zygomatic-arch breadth, and, although arms and legs are short, for the length of foot and hand. The Nahuquá do not have a 6 for any measure, but show relatively many 1's and 2's.

B T 142 126 /171/ The skin color is characterized by yellow-gray loam shades in all gradations; sunburn, dirt, and painting made it extremely difficult to determine the original color, and it was only under the cotton bindings on the upper arms or lower legs that one realized how light the Indians actually were. Wilhelm made a little color chart on the spot; according to it, the average shade falls between No. 30 and 33 of the Broca chart; the darker tones had a definite lilac-violet admixture, especially on chest and abdomen, the lighter tones a somewhat yellow one. We also used the Radde charts and found the greatest similarity for forehead and cheek with 33 m to n or also 33 o, the upper arms approximately 33 m.

B T 142 The head hair was black; especially among the Bakaïrí, Nahuquá, and Auetó, brownish black. The bluish-black shade did not occur. On the other hand, the hair, especially of the Bakaïrí children, looked strangely light and faded if the light struck it obliquely; at times it had a dark red shimmer. We never encountered "horsehair." The head hair was moderately thick and straight or, especially among the Bakaïrí and Nahuquá, decidedly wavy. To our surprise, we saw out-and-out curly heads among the Bakaïrí, such as, for example, the type shown on Plate 13. How much of it was nature, how much art, is difficult to say. At any rate, old Paleko in Maigéri, who had long since become superior to the vanity of youth, had short, curly hair. Among the Bakaïrí, the hair is wavy without artificial treatment. Sometimes the forehead was hairy almost to the eyebrows.